

## CLAIMS

1. An interference signal canceling apparatus,  
comprising:

5 likelihood calculating means for calculating  
likelihoods of respective symbols included in an input  
signal;

threshold value judging means for judging a  
threshold value by comparing a calculated likelihood with  
10 an appointed threshold value in terms of size;

rank deciding means for deciding the rank of symbols,  
in which said likelihood is said threshold value or more,  
on the basis of said likelihood;

demodulating means for demodulating said symbols  
15 on the basis of the decided rank; and

removing means for removing the demodulated  
symbols from said input signal and making the same into  
a new input signal.

2. The interference signal canceling apparatus as set  
20 forth in Claim 1, further comprising threshold value  
controlling means for controlling threshold values,  
wherein said threshold value judging means judges a  
threshold value using the threshold values that are  
controlled by said threshold value controlling means.

25 3. The interference signal canceling apparatus as set  
forth in Claim 2, wherein said threshold value controlling  
means controls threshold values on the basis of the numbers

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of likelihoods that are judged to be the threshold value or more.

4. The interference signal canceling apparatus as set forth in Claim 1, further comprising threshold value  
5 deciding means for deciding a threshold value on the basis of the threshold values used in the past, wherein said threshold value judging means carries out a first-time judgement of threshold values, using the threshold value that is decided by said threshold value deciding means.

10 5. A base station having an interference signal canceling apparatus, wherein said interference signal canceling apparatus comprises likelihood calculating means for calculating likelihoods of respective symbols included in an input signal; threshold value judging means  
15 for judging a threshold value by comparing a calculated likelihood with an appointed threshold value in terms of size; rank deciding means for deciding the rank of symbols, in which said likelihood is said threshold value or more, on the basis of said likelihood; demodulating  
20 means for demodulating said symbols on the basis of the decided rank; and removing means for removing the demodulated symbols from said input signal and making the same into a new input signal.

6. A method for canceling an interference signal,  
25 comprising the steps of:

calculating likelihoods of respective symbols included in input signals;

